PDA
November 2004

De Groote SL, Doranski M. The use of personal digital assistants in the health sciences: Results of a survey. J Med Libr Assoc 2004 Jul;92(3):341-8. [PMID:15243640]. {Available in PubMed Central}

Library of the Health Sciences, University of Illinois at Chicago, 1750 West Polk, Chicago, Illinois, USA. sgroote@uic.edu

ABSTRACT: OBJECTIVES: The purpose of this study is to determine how personal digital assistants (PDAs) are used on an academic health sciences campus to define the level of training and support the library can provide to the students and faculty. METHOD: A Web-based questionnaire was developed. A total of 1,538 health sciences faculty and residents were sent an email message requesting participation. Data from the returned surveys were analyzed with SPSS. RESULTS: Sixty-one percent of survey respondents used PDAs. The address book, date book, and calculator were the most common uses reported for PDAs. Residents also reported a high use of drug databases on their PDAs. Most survey respondents indicated they would like to learn more about clinical resources for PDAs. CONCLUSIONS: Many opportunities exist for librarians to provide training and support for PDAs, in addition to evaluation and promotion of clinical software for PDAs.

Gandsas A, McIntire K, George IM, Witzke W, Hoskins JD, Park A. Wireless live streaming video of laparoscopic surgery: A bandwidth analysis for handheld computers. Stud Health Technol Inform 2002;85:150-4. [PMID:15458077].

Department of Surgery, University of Kentucky, Lexington, KY 40536, USA.

ABSTRACT: Over the last six years, streaming media has emerged as a powerful tool for delivering multimedia content over networks. Concurrently, wireless technology has evolved, freeing users from desktop boundaries and wired infrastructures. At the University of Kentucky Medical Center, we have integrated these technologies to develop a system that can wirelessly transmit live surgery from the operating room to a handheld computer. This study establishes the feasibility of using our system to view surgeries and describes the effect of bandwidth on image quality. A live laparoscopic ventral hernia repair was transmitted to a single handheld computer using five encoding speeds at a constant frame rate, and the quality of the resulting streaming images was evaluated. No video images were rendered when video data were encoded at 28.8 kilobytes per second (Kbps), the slowest encoding bitrate studied. The highest quality images were rendered at encoding speeds greater than or equal to 150 Kbps. Of note, a 15 second transmission delay was experienced using all four encoding schemes that rendered video images. We believe that the wireless transmission of streaming video to handheld computers has tremendous potential to enhance surgical education. For medical students and residents, the ability to view live surgeries, lectures, courses and seminars on handheld computers means a larger number of learning opportunities. In addition, we envision that wireless enabled devices may be used to telemonitor surgical procedures. However, bandwidth availability and streaming delay are major issues that must be addressed before wireless telementoring becomes a reality.

Palmblad M, Tiplady B. Electronic diaries and questionnaires: Designing user interfaces that are easy for all patients to use. Qual Life Res 2004 Sep;13(7):1199-207. [PMID:15473498].

AstraZeneca R&D, Molnda, Sweden.

ABSTRACT: We propose a set of requirements for designing handheld computer systems for electronic collection of patient diary and questionnaire data in clinical trials: (1) the system should be suitable for use by all types of patient to be included in the clinical trial programme; (2) patients must be capable of using the system and be comfortable with it after a short period of training; (3) responses should always result from an action by the user--defaults should not be taken as data; (4) all information necessary to a given question should be simultaneously available on the screen. This applies to both the questions and the response options. We present guidelines as to how these requirements may be met in practice, so that bias may be avoided both in patient selection and in the responses made; so that electronic data collection may be as effective as possible, and so that study procedures are convenient and unobtrusive for the patients.

Sutton J, Stockton L, McCord G, Gilchrist VJ, Fedyna D. Handheld computer use in a family medicine clerkship. Acad Med 2004 Nov;79(11):1114-9. [PMID:15504784].

Department of Family Medicine, Northeastern Ohio Universities College of Medicine, 4209 St., Rt. 44, P.O. Box 95, Rootstown, OH 44272. jds@neoucom.edu.

ABSTRACT: PURPOSE: The objectives of this study were to track students' use of medical and nonmedical personal digital assistant (PDA) software and to obtain students' ratings of the usefulness of PDAs in a family medicine clerkship. METHOD: During the academic year 2001-02, third-year clerkship students at the Northeastern Ohio Universities College of Medicine were loaned PDAs equipped with company-installed software, such as a date book and address book. Additional software was installed (Griffith's 5 Minute Clinical Consult(R), ePocrates qRx(R), ePocrates qID(R), iSilo(R), HanDBase(R), MedCalc(R), and Application Usage(R)). Pre- and postorientation questionnaires and a post-rotation evaluation measured students' comfort level, the perceived usefulness, and ratings of programs on their PDA. Application Usage tracked the number of minutes and times students used each software program. RESULTS: Eighty-five students completed the study. They rated ePocrates qRx and Griffith's 5 Minute Clinical Consult the most useful medical software programs. PDAs were rated as "almost always" enhancing the clerkship experience. Students reported the PDA altered the way they accessed clinical information and that every few days it helped them understand a clinical discussion. Experience with computer technology was correlated with PDA use. CONCLUSIONS: This study objectively demonstrates clerkship students' use of PDA resources. Students' use mirrors their assessment of the value of the software. Although PDAs and software programs can be an expense, it is a worthwhile educational resource as evaluated by the medical student.